



SEQUENCE LISTING

<110> Smith, Johnathan F.
Kamrud, Kurt I.
Rayner, Jon O.

<120> IMPROVED ALPHAVIRUS REPLICONS AND HELPER CONSTRUCTS

<130> 9368-5

<140> US 10/804,331

<141> 2004-03-19

<150> US 60/456,196

<151> 2003-03-20

<160> 44

<170> PatentIn version 3.3

<210> 1

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<212> PRT

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<223> Alphavirus attenuating amino acid insertion sequence

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Val Asp

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ggtaactggc ttccagcagag cgccagatacc aaataactgtt cttctagtgt agccgtagtt 180

aggccaccac ttcaagaact ctgttagcacc gcctacatac ctcgctctgc taatcctgtt 240

accagtggct gctgccagtg gcgataagtc gtgtcttacc gggttggact caagacgata 300

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atggattgca cgcaggTTCT ccggccgTTT gggTggagag gctattcggc tatgactgg	180
cacaacagac aatcggtgc tctgatgccg ccgtgttccg gctgtcagcg caggggcGCC	240
cggttTTTT tgtcaagacc gacctgtccg gtgcctgaa tgaactgcag gacgaggcag	300
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ctccaaacgtc aaagggcgaa aaaccgtcta tcagggcgat ggcccactac gtgaaccatc	180
accctaatac agtttttgg ggTCgaggtg ccgtaaagca ctaaatcgga accctaaagg	240
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gccggAACAC	ggcggCATCA	gagcagCCGA	ttgtctGTTG	tgc c cagtca	tagccGAATA	180
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acgatcCTCA	tcctgtCTCT	tgatcagATC	cgaaaaATGGA	tatacaAGCT	cactcATTAG	300
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